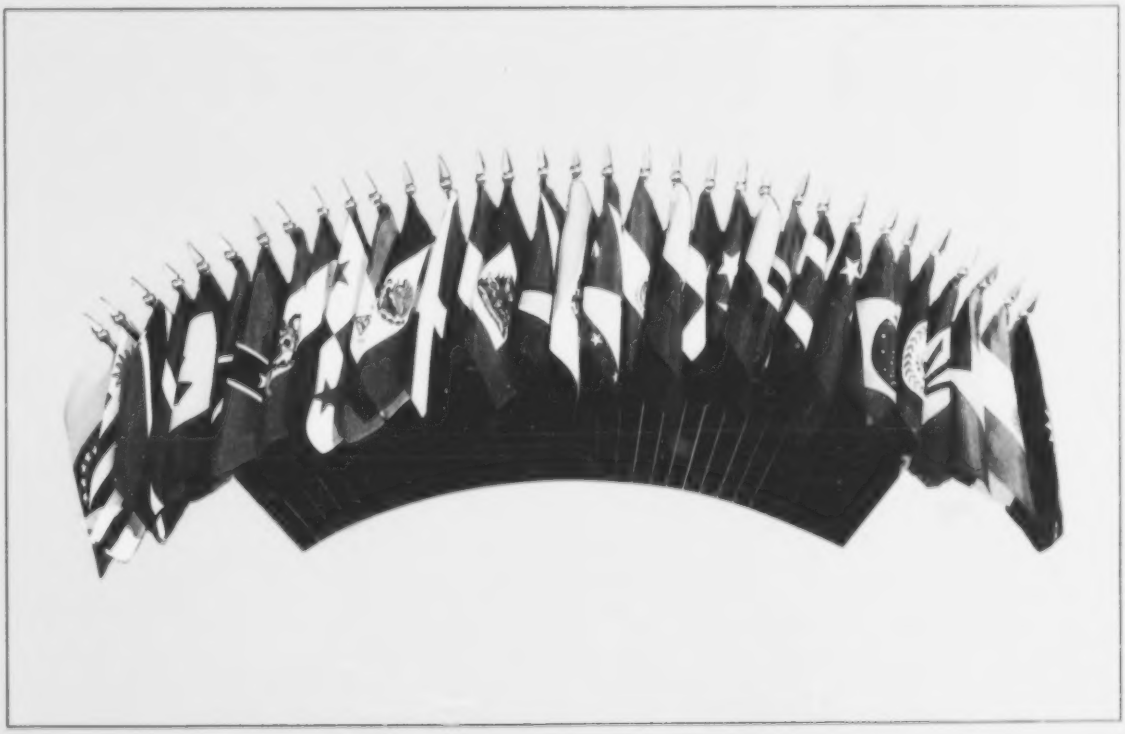
THE COUNTRIES OF LATIN AMERICA AND THE CARIBBEAN AND THE ACTION PLAN FOR THE ENVIRONMENT



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THE COUNTRIES OF LATIN AMERICA AND THE CARIBBEAN AND THE ACTION PLAN FOR THE ENVIRONMENT

A STRATEGY FOR LIVING

Seventh Ministerial Meeting on the Environment. Port-of-Spain (Trinidad and Tobago).

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Prologue

Two decades have past since the historic United Nations Conference on the Human Environment, held in Stockholm in 1972, which marked the beginning of a new concept of development based on ecological sustainability, social equity and quality of life.

Since that time, many efforts have been made in the field of environmental management in Latin America and the Caribbean.

In Mexico, in 1982, the Governments of Latin America and the Caribbean agreed that regional and subregional approaches were the most suitable to face environmental problems that require international cooperation.

In Brasilia, in 1989, the same Governments established the political principles that they shared regarding the relationship between environment and development.

In Port-of-Spain, Trinidad and Tobago, in late 1990, following a long process to reach concerted agreement through diverse intergovernmental mechanisms, the Governments adopted an ENVIRONMENTAL ACTION PLAN, a tool for political programming and regional cooperation with which the Governments have provided themselves to protect the environment.

The ACTION PLAN has demonstrated both the political will of the Governments and the will to strengthen their position in negotiating with the developed countries in environment-related matters; it marks the beginning of a stage in which specific projects are being programmed and implemented to safeguard and protect the environment on the basis of the development needs and processes in each country.

The purpose of this document, THE COUNTRIES OF LATIN AMERICA AND THE CARIBBEAN. A STRATEGY FOR LIVING, is to disseminate basic ideas on the environmental processes in the region and the strategies proposed in the Regional Cooperation Programme of the ACTION PLAN for the Environment.

Sources used in drafting this document include the ACTION PLAN FOR THE ENVIRONMENT IN LATIN AMERICA AND THE CARIB-

BEAN: OUR OWN AGENDA, prepared by the Latin American and Caribbean Commission on Development and Environment under the auspices of IDB and UNDP in cooperation with UNEP and ECLAC; DESARROLLO Y MEDIO AMBIENTE EN AMERICA LATINA Y EL CARIBE. UNA VISION EVOLUTIVA, produced through the joint efforts of the Ministry of Public Works and Urban Planning of the Government of Spain and the UNEP Regional Office for Latin America and the Caribbean; EL RETO AMBIENTAL DEL DESARROLLO, prepared by ECLAC and UNEP; OUR COMMON FUTURE, prepared by the United Nations World Commission on Environment and Development; and CARING FOR THE EARTH. A STRATEGY FOR SUSTAINABLE LIVING, published by the International Union for the Conservation of Nature and Natural Resources (IUCN), UNEP and the World Wildlife Fund (WWF).

We believe that the firm political determination of the Governments and an ongoing and sustained education and public information campaign through the available media are essential to achieving development based on the sustainability of our human and environmental resources.

We hope that this document will be useful in communicating, in a simple manner, the programmes and concepts established in the ACTION PLAN FOR THE ENVIRONMENT IN LATIN AMERICA AND THE CARIBBEAN, and will reach all those involved in defining policies and taking decisions that affect the course of development and the environmental situation, in addition to leaders, entrepreneurs, journalists, communicators, students and all people concerned about this fundamental issue in our region.

José Lizárraga
Director of the UNEP Regional Office for Latin America and the Caribbean.

Introduction

One of the most serious threats hovering over the present and future generations worldwide is the environmental crisis.

Continuous destruction of natural ecosystems and growing deterioration in the quality of life are a permanent part of the daily reality confronting the people of Latin America and the Caribbean. Thus, steps must be taken to change the course of events in the very near future, tapping the political will of the Governments and using all means of participation by organized civil society.

This task requires extensive knowledge of the region's environmental characteristics and problems, so that suitable environmental programmes and policies may be designed without, at any time, losing sight of their links with the economic and social processes in which they are to be carried out.

United Nations/TVA

In recent years, the Governments of the region have been holding intergovernmental consultative meetings on the environment, which have resulted in a Regional Environmental Cooperation System that is in the process of becoming firmly established. The same Governments have also initiated several environmental programmes of common interest with the cooperation of non-governmental organizations and diverse agencies of the United Nations system.

Nevertheless, the progress and benefits achieved through this cooperation scheme have been insufficient to meet the actual needs of the environmental administrations in the countries of the region.

Consequently, in October 1990, the countries of Latin America and the Caribbean adopted a detailed ACTION PLAN which strengthened cooperation commitments made thus far. Preparation of the Plan was based on extensive consultations between the Governments and international agencies and on joint contributions of the United Nations Environment Programme (UNEP), the United Nations Development Programme (UNDP), the Economic Commission for Latin America and the Caribbean (ECLAC) and the Inter-American Development Bank (IDB).

In addition to strengthening joint efforts to improve the environment of the countries, the ACTION PLAN promotes the participation of development agencies, financial institutions and other international organizations.

Latin America and the Caribbean must adopt a strategy for sustainable development; that is, development that generates progress capable of equitably meeting the needs of the people without affecting the survival and development possibilities of future generations. This will require more efficient use of natural and cultural resources, which can be achieved through more judicious and sound environmental management:

- Management that recognizes the existing natural and cultural diversity, the multidisciplinary complexity of problems and the multisectoral nature of solutions.
- Management that includes environmental considerations in all the production processes in the country and achieves concerted agreement among diverse social sectors.
- Management that values the results of medium -and long-term investment in the environment.
- Management that establishes procedures which are truly selective in choosing technological systems to exploit natural resources.
- Management that recovers locally-generated technologies and upgrades them.
- Management that conducts intensive mass environmental education campaigns.
- Management that establishes a regional system for professional education and training.

ALL THESE POINTS ARE PRECISELY WHAT THE ACTION PLAN FOR THE ENVIRONMENT IN LATIN AMERICA SEEKS TO PROMOTE.

The goal of the ACTION PLAN is to address critical environmental problems at three levels:

- **At the national level**: through environmental administration and management in each country, assisting in the development of pertinent legislation and promoting environmental awareness and education.

- **At the regional level**: through the improvement of information exchange systems and measures to ensure that agreements reached by the Governments are implemented.

- **At the global level**: through the participation of the countries of Latin America and the Caribbean in matters of world interest that have implications for the region, such as climate change and the conservation of biodiversity.

Now the Governments and the community in general must fulfil this commitment to life through solidarity and cooperation.

Consequently, the ACTION PLAN concludes its deliberations with a call to action, which commits the countries of the region to cooperate closely, so that its objectives may be successfully achieved:

"WE COMMIT OURSELVES TO PROMOTE THE PLAN AT THE HIGHEST POSSIBLE LEVEL, AND TO ESTABLISH ARRANGEMENTS FOR EXTENSIVE CONSULTATIONS AND WIDESPREAD PARTICIPATION AMONG OUR PEOPLE."

"WE REAFFIRM OUR COMMITMENT TO HEMISPHERIC SOLIDARITY, TO THE REGIONAL COOPERATION SYSTEM AND TO THE PROMOTION OF THE ACTION PLAN FOR THE ENVIRONMENT IN LATIN AMERICA AND THE CARIBBEAN AS AN IMPORTANT INSTRUMENT FOR STRENGTHENING SUCH COOPERATION."

(Call to Action of the ACTION PLAN for the Environment in Latin America and the Caribbean, Port-of-Spain, 1990)

WWF/I.Craven

Vicuña management and conservation programmes have been carried out for several years.

J.A. Fernández/INCAFO

The Governments of the region have expanded protected areas.

J. de Vergara/INCAFO

Many industries are now aware that pollution prevention is profitable.

F. Botts/FAO

THE ACTION PLAN for the environment

What is the ACTION PLAN?

THE ACTION PLAN is a very broad programming tool aimed at strengthening and upgrading the efficiency of the Regional Cooperation System for environmental matters in Latin America and the Caribbean.

THE ACTION PLAN is a mandate, a necessity and a response to the numerous national, regional and global problems that are affecting the quality of the environment and that can be addressed with a greater possibility of success through cooperation between the countries.

THE ACTION PLAN has been conceived as a means of incorporating environmental factors into development activities from the very outset, so that the planners in charge of economic policy take into account ecological protection as an essential component of economic, social and cultural development.

THE ACTION PLAN seeks to maintain balance between the environmental processes of the region and economic development issues, since it is impossible to separate the environment from economic development. Many of the growth and development models that we have used, do in fact, deplete natural resources irreversibly.

THE ACTION PLAN seeks to encourage greater understanding of the importance and seriousness of environmental problems among those in charge of economic policy and development planning.

THE MANAGEMENT OF NATURAL RESOURCES, ENVIRONMENTAL POLICIES AND SUSTAINABLE DEVELOPMENT SHOULD SEEK TO UPGRADE THE QUALITY OF LIFE WITHOUT DEGRADING THE ENVIRONMENT.

Why protect the environment?

In the mid-twentieth century, we saw our planet from space for the first time. We saw a small and vulnerable sphere covered by a combination of clouds, rivers, oceans, green areas and lands of various hues.

As we came closer, we discovered that many of the man-made spaces (bridges, dams, croplands, towns, factories and cities) were modifying the planet's system of equilibrium, since all forms of life, together with land, water and air, make up an enormous interdependent system: the BIOSPHERE. If one of these com-

ponents is altered, it affects the entire system and may cause the irreversible loss of untold natural resources or, what is even more serious, irreversible losses in the quality of life on our planet. That is why the environment needs to be suitably protected.

THE EXPLOITATION OF RENEWABLE NATURAL RESOURCES IS ONLY SUSTAINABLE WHEN THEY ARE USED WITHOUT EXCEEDING THE LIMITS OF THEIR CAPACITY TO REGENERATE THEMSELVES.

Why is an ACTION PLAN needed in the region?

The natural resources of Latin America and the Caribbean are so diverse that they defy the imagination. Almost every type of life zone in the world can be found in the region. LATIN AMERICA AND THE CARIBBEAN IS THE REGION WITH THE GREATEST BIOLOGICAL WEALTH IN THE WORLD.

Nevertheless, Latin America and the Caribbean do not produce enough food for their people. Their fisheries potential is subject to oceanographic limitations. The hydrocarbons that are abundant in some areas are scarce in others. Their lands, exploited for centuries to provide the industrialized countries with minerals, spices, sugar, cotton, coffee and tobacco, are afflicted by gradual erosion caused by deforestation and unsuitable agricultural methods.

REDUCED SOIL FERTILITY, SHORTAGE OF NATURAL RESOURCES, SUCH AS WATER, AND LOWER PRODUCTIVITY OF NATURAL SYSTEMS CLEARLY PROMOTE POVERTY.

Environmental protection and improvement projects in the region will basically depend on the political commitment of its Governments and on suitable funding plans: funding that will be made possible through the reallocation of national resources and, to a great extent, additional financial resources provided under concessional terms by the international community and its financial agencies.

Consequently, the region needs an instrument to upgrade institutions, both for environmental management and for joint negotiations with the countries that possess information and economic resources. The Action Plan provides mechanisms to promote regional and subregional programmes aimed, not only at improving economic and social conditions, but also the environment, since poverty and environmental deterioration are both the result of the same global process of adverse development.

The ecological and financial debt, a labyrinth of problems that must be solved.

For almost five centuries, the natural heritage of Latin America and the Caribbean has contributed to the development of the industrialized countries, which has consequently given rise to the increasingly accelerated deterioration being experienced in the region.
The industrialized countries have therefore incurred an ecological debt to the developing world, which now involves the obligation to support the sustainable development of the poor countries to prevent further deterioration in the delicate balance of the planet's environment. This requires mobilization of financial resources under concessional terms to back regional environment and development programmes, in addition to the transfer of technology benign to the environment at an affordable cost.
But the need to obtain foreign exchange through exports, so that foreign debt interests can be paid and inputs essential to production can be imported, results in new pressure to increase agriculture and overexploit natural resources.
This need has caused a notable decrease in public spending and, consequently, a significant reduction in environmental protection and improvement activities. This situation contradicts the expressions of the international community calling for stronger national environmental policies. Without a just and lasting solution to the foreign debt problem, the countries of Latin America and the Caribbean will be unable to achieve sustainable economic and environmental development.

What is the price of environmental deterioration?

The paradox is deep: the region has few limitations in its natural systems that would prevent it from meeting the needs of its people, and its educational, cultural and technological base is quite sound. However, the region is subject to an unprecedented process of social and environmental deterioration.

Degradation in the quality of life, expressed in terms of poverty and preventable afflictions is the price that our peoples are paying as a result of environmental deterioration, and this price may increase almost exponentially in coming decades.

In recent years, these difficulties have spurred a healthy reaction in the countries of the region, which are now attempting to reformulate their development models. The ACTION PLAN for the environment is precisely the initial tool being used to begin this development process.

DEVELOPMENT SHOULD BE BASED ON CONSERVATION; THAT IS, IT SHOULD PROTECT THE STRUCTURE, THE FUNCTIONS AND THE DIVERSITY OF THE NATIONAL SYSTEMS ON WHICH IT DEPENDS.

A.S. Kochar/OMS

The cooperation programmes of the ACTION PLAN

The countries of Latin America and the Caribbean have identified a number of environmental problems they have in common and, for several years prior to the establishment of the ACTION PLAN, they have been implementing regional cooperation programmes. These include regional programmes to develop environmental legislation and institutional frameworks, to promote environmental training, to further the conservation of resources and to encourage subregional action plans for the management of marine and coastal resources in the SouthEast Pacific and the Wider Caribbean. These programmes are being supported by the Governments and diverse agencies.

During its initial stage, the ACTION PLAN will be conducive to the strengthening of these programmes, since it integrates them into a broader structure. It also identifies and launches new programmes aimed at covering other aspects of environmental problems in the region, so as to promote environmental planning and management policies, plans and projects; encourage compatibility between the environmental laws and standards in the different countries; support horizontal cooperation and information exchange; give priority to preventive measures; support the training of human resources and environmental education among the general public; promote the responsible participation of non-governmental organizations; encourage research and the transfer of clean technology; protect the natural ecosystems, biological diversity and cultural heritage of the region; and seek the support of international agencies and the responsible commitment of the industrialized countries to assist the region in solving its environmental problems, many of which have been caused by these very countries.

The successful implementation of all these programmes will depend on the gradual development of cooperation PROJECTS designed by the participating Governments, as well as the support and participation of citizens, governmental entities and international agencies.

To facilitate this task, the ACTION PLAN is establishing an **ELECTRONIC ENVIRONMENTAL INFORMATION EXCHANGE SYSTEM** (basic support programme), intended to set up a computer

S. Sprague/PANOS

Population pressures and poor water use reduce not only the supply of water, but its quality as well.

Carlos H. Toi/Contact Press

network that will provide access to a data base on environmental projects.

Through this service, called **PNUMA/ORPALC/AMBIONET**, individuals and institutions committed to environmental activities in the region will be able to keep in close communication for the identification, planning, financing, implementation, follow-up and evaluation of all the programmes and projects. It will also allow the vast wealth of natural resources in the region to be systematically documented for the first time and will assist the Governments in taking duly substantiated decisions concerning the management and development of their resources.

PNUMA

The programming areas of the ACTION PLAN.

The ACTION PLAN establishes four major areas for cooperation programmes:

1. Natural resource management
2. Pollution prevention and control
3. Global environmental problems
4. Environmental management and institutional development

These areas cover subregional, regional and global aspects of the environmental problems that have been identified by the Governments as being of priority to the region: land use; water, forest and coastal resource management; problems of environmental quality in cities; mining, industrial and fuel pollution; and global problems related to climate change, depletion of the ozone layer, loss of biodiversity, waste management, ecological territorial management, the use of clean technology, and other concerns.

As we move forward through the diverse environmental topics and aspects, it will become clear that it is important and necessary for this ACTION PLAN to be incorporated into the development plans of the Governments, and that society as a whole bears the responsibility in each country, while the countries bear the responsibility at the regional level.

LATIN AMERICA AND THE CARIBBEAN
Equivalent and contour projection
BAHAMAS
MEXICO
CUBA
HAITI
DOMINICAN REPUBLIC
BELIZE
GUATEMALA
HONDURAS
JAMAICA
SAINT CHRISTOPHER
ANTIGUA AND BARBUDA
DOMINICA
EL SALVADOR
NICARAGUA
SAINT LUCIA
BARBADOS
GRENADA
SAINT VINCENT OF NEW GRANADA
COSTA RICA
TRINIDAD AND TOBAGO
PANAMA
VENEZUELA
GUYANA
SURINAME
COLOMBIA
ECUADOR
BRAZIL
PERU
BOLIVIA
PARAGUAY
CHILE
URUGUAY
ARGENTINA
THE DESIGNATIONS USED AND LIMITS SHOWN ON THIS MAP DO NOT IN ANY WAY EXPRESS THE OPINION OF UNEP CONCERNING THE LEGAL OR CONSTITUTIONAL STATUS OF ANY COUNTRY OR TERRITORY OR THE LOCATION OF THEIR BORDERS.
ALTITUDE GREATER THAN 1 000 M.

Deirde Høyde

1. Natural Resource Management

Land

Today, the number of people suffering from hunger in the region is greater than ever before, and their number is increasing. Vast areas of land have been degraded through improper use.

Unsuitable cultivation practices cause soil erosion and loss of fertility; improper use of fertilizers and pesticides endangers health and pollutes water sources; poorly operated irrigation systems cause salinization and alkalinization of soils; and overgrazing leads to desertification.

The proliferation of chemical products in the countryside and their irrational use has given rise to diverse environmental and health problems, particularly in countries that do not have skilled staff and technical means to control and supervise their distributions and proper use. Frequently, the chemical products used in the region are those banned in the industrialized countries. In Central America, 75% of the pesticides used are prohibited in the United States of America.[1]

ANY DEVELOPMENT STRATEGY THAT ENABLES US TO OVERCOME STAGNATION WILL HAVE TO BE BASED ON THE SOUND USE OF NATURAL RESOURCES.

In response to these problems, the ACTION PLAN envisages a **PROGRAMME FOR THE MANAGEMENT AND PLANNING OF NATURAL RESOURCES IN RURAL AREAS**, aimed at selecting optimum models for land use in the rural areas of the region.

Agricultural land use should be based on a scientific evaluation of the sustainable yield capacity of the land.

There are three broad categories of land that require different strategies for their use:

AREAS FOR IMPROVEMENT, capable of producing intensive crops, increasing productivity and accepting more population with a higher level of consumption.

AREAS FOR RECOVERY, where intensive cultivation should not be practiced, but use should instead be limited to pastureland, timber and fruit trees or forests.

AREAS FOR RESTORATION, which are lands that have been stripped of their vegetation, have become sterile or have become drastically less fertile.

PARADOXICALLY, AGRICULTURE AND LIVESTOCK RAISING ARE THE ACTIVITIES RESPONSIBLE FOR THE GREATEST ECOLOGICAL DESTRUCTION IN THE REGION.

PNUMA

It is estimated that 10% of the total area of the region is in the process of reaching moderate or serious desertification, owing to a complex combination of climate and man-made effects, population pressure, overgrazing and harmful migratory cultivation practices such as slash and burn agriculture.[2]

The ACTION PLAN, through the **DESERTIFICATION CONTROL PROGRAMME**, seeks to identify biological and physical processes that contribute to desertification, and to monitor and stop the expansion of this phenomenon.

The soils of Latin America and the Caribbean are situated on a geologically young and active structure. That is why they are periodically afflicted by cataclysms, volcano eruptions, landslides and floods. And the vulnerability of the region to these natural phenomena has increased; economic straits have affected the quality of buildings and the maintenance of highways and dams, and has also led to the establishment of human settlements in areas subject to erosion and flooding. Consequently, the ACTION PLAN includes a **REGIONAL COOPERATION PROGRAMME TO CONFRONT NATURAL DISASTERS AND MITIGATE THEIR ENVIRONMENTAL IMPACT**.

The Image Bank

Ways to fight desertification

1. Reforestation projects
2. Planting of trees along steep slopes
3. Tree farming
4. Terracing of crops on steep slopes
5. Contour farming
6. Construction of dams to regulate the flow of surface water
7. Planting of windbreaks
8. Dune stabilization programmes

Water

CROP IRRIGATION IS RESPONSIBLE FOR MOST WATER CONSUMPTION AND WASTE; 70% OF THE WATER NEVER REACHES THE CROPS, OWING TO POOR USE AND LEAKS IN THE DISTRIBUTION CANALS.[3]

In Latin America and the Caribbean, water is abundant; none the less, there are vast desert areas where the shortage of water seriously hinders development. In other areas, the water cycle varies to such an extent that it causes a perverse sequence of droughts, erosion and flooding.

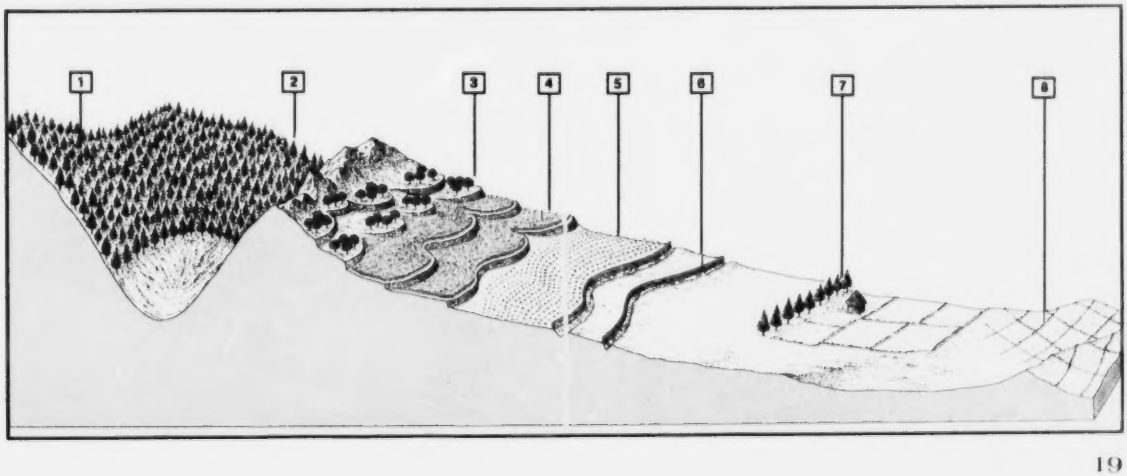
Poorly planned irrigation systems, irrational use of water and deterioration in its quality are decreasing agricultural productivity, propagating diseases and threatening the ecological balance.

More than half of the diseases of the region are transmitted through sources of water supply.

Agricultural productivity and the survival of cities depend on the flow and quality of watersheds (rivers, lakes and lagoons).

The three principal river basins in Latin America and the Caribbean, the Amazon, the Río de la Plata and the Orinoco, make up two thirds of the total water flow of the region.[4]

Water resources should be managed using the watersheds as units. Consequently, the ACTION PLAN seeks to establish a basic support **PROGRAMME FOR THE MANAGEMENT OF NATIONAL AND MULTINATIONAL WATERSHEDS**, whose main objectives are to plan the suitable use of national basins and to promote cooperation programmes for international river basins, so that



water infrastructure and productive lands can be protected from erosion, the quality of life can be upgraded through rural development plans and an integral management plan for each basin can be prepared.

To expand the information base, alert the public to the importance of the water cycle and improve management practices, the ACTION PLAN envisages a **WATER POLLUTION PREVENTION AND CONTROL PROGRAMME** to promote and protect water quality in the region.

Stephen Schwartzman

© Stephan Schwartzman

Forests

Forests form part of the system that sustains life on the planet and are an invaluable natural resource. They play an important ecological regulatory role and are the habitat of millions of species. They protect the soil from erosion and contribute to moderating the climate and floods, in addition to providing an ecologically sustainable supply of timber, fuelwood and food.

In the past 30 years, some 2 million km^2 have been deforested in Latin America and the Caribbean, which is equivalent to an area slightly larger than Mexico. This deforestation has serious economic and social repercussions, threatens the natural balance of watersheds and deprives the region of the biological diversity on which it depends.[5]

At this rate of deforestation, 10% of all existing species may be irremediably lost by the year 2000, as well as incalculable resources for food and industrial and medicinal inputs for the region. Among other losses, we may be losing the opportunity to cure AIDS or cancer.[6]

The main cause of deforestation is the need to expand crop areas, which usually takes place through migratory cultivation with clearing, burning and planting.

Small strips on the edge of the forest can, however, be cleared, planted and left to return to their natural state, as long as they are allowed to lie fallow for a sufficient length of time.

But as the population increases and arable land begins to become scarce, small farmers are forced to move towards the interior of the forest, where the land is completely unsuitable for this type of agriculture. As yields diminish, lands are left to lie fallow for shorter periods of time and the forest disappears.

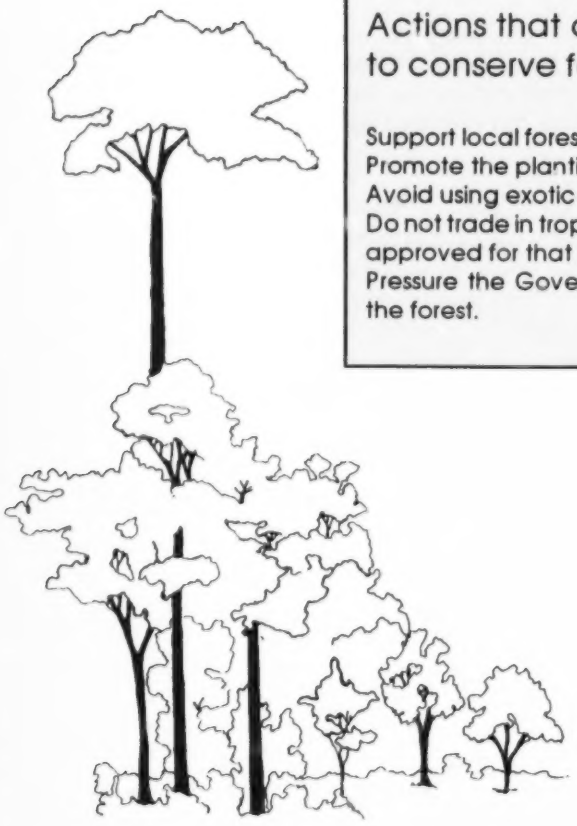
To decisively counteract these problems and promote the sustainable use of forestry resources in the region, the ACTION PLAN includes a **PROGRAMME FOR THE MANAGEMENT OF TROPICAL AND SUBTROPICAL FORESTS**, since forestry policies should be based on an analysis of the capacity of the forests and their subsoils for specific uses such as cultivation, grazing,

Mark Edwards

MIGRATORY AGRICULTURE IS RESPONSIBLE FOR 35% OF THE DEFORESTATION IN LATIN AMERICA AND THE CARIBBEAN.[7]

logging, biological reserves, watershed protection, recreation or conservation of species.

The ACTION PLAN also includes a **PROGRAMME FOR THE EXPANSION OF FOREST AREAS BY REFORESTATION WITH NATIVE SPECIES** to increase the contribution that the forests of Latin America and the Caribbean make to improving the world's climate.



Actions that can be taken by the community to conserve forests.

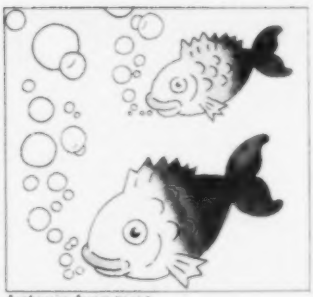
Support local forestry production organizations.
Promote the planting of trees.
Avoid using exotic tropical woods (teak or mahogany).
Do not trade in tropical animals and plants unless they are legally approved for that purpose.
Pressure the Government and municipal authorities to protect the forest.

Winrock

The sea and the coasts

Most of the wastes in the region end up in the sea and for years they remain along the coast, where they interfere with fish nursery grounds and pollute the beaches. For fishermen the problem is particularly serious, since most varieties of fish and mollusks live in coastal waters.

Of the pollutants that reach the ocean, 80% come from sewage, industrial residues and agricultural wastes, while the remaining 20% is caused by coastal mining, fuel production and maritime transport, particularly by oil dumped through spills or shipwreck.[8]



Antonio Aranguez

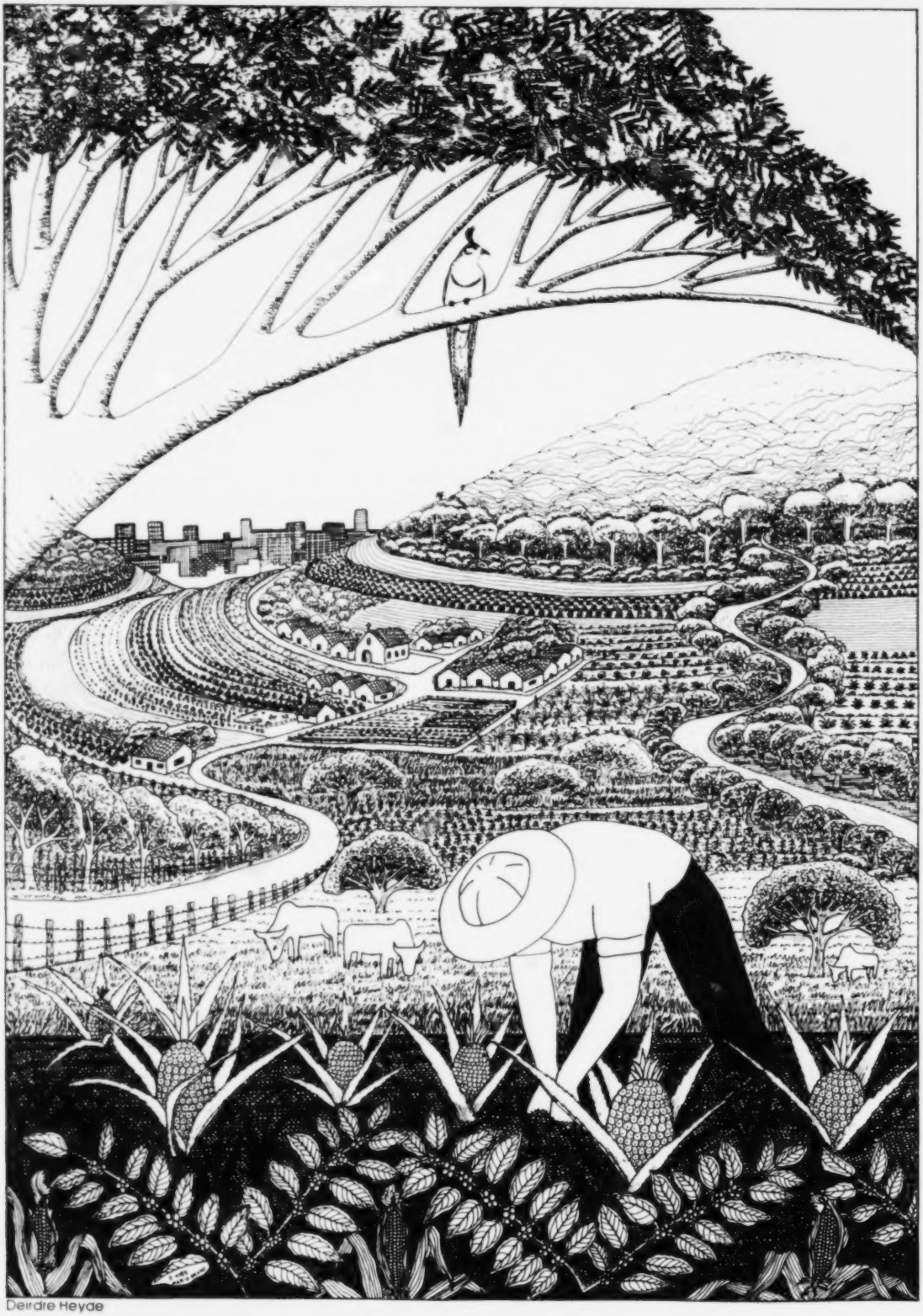
All these effects tend to become more intense in SEMI-ENCLOSED SEAS, such as the Gulf of Mexico; in MANGROVES, which are nursery grounds for important species such as shrimp, mullet and snook; and in REEFS, which are areas where many organisms grow.

MANY OF THE ACTIVITIES HARMFUL TO COASTAL ECOSYSTEMS HAVE RESULTED FROM A LACK OF PLANNING, THE CRISIS IN EMPLOYMENT AND A LACK OF AWARENESS AMONG LOCAL GOVERNMENTS.

The **PROGRAMME ON ENVIRONMENTAL IMPACT ON MARINE AND COASTAL ECOSYSTEMS OF THE ACTION PLAN** seeks to study the economic implications of coastal environmental degradation and to formulate prevention and restoration strategies, so that projects may be undertaken to control costal pollution, monitor the ocean environment and protect marine life.

The ACTION PLAN also proposes to expand the scope of the **PROGRAMME FOR THE PROTECTION OF THE MARINE AND COASTAL AREAS OF THE SUBREGION OF THE SOUTH-EAST PACIFIC AND THE WIDER CARIBBEAN**, which is already under way, and to promote a new programme to reduce the adverse environmental impact of development processes on island territories.

In 1981, the Caribbean Environment Programme outlined 66 projects, of which those concerning watersheds, oil spills and public information were granted priority. In 1981, five countries in the SouthEast Pacific (Chile, Colombia, Ecuador, Panama and Peru) adopted an ACTION PLAN, together with a convention and several protocols.



Deirdre Heyde

2. Pollution prevention and control

Cities

In recent decades, the nations of Latin America and the Caribbean have rapidly become urban countries in which deficiencies, unemployment, lack of water and basic services, lack of social protection, pollution, disease and insecurity in the midst of violence are experienced daily by many of their inhabitants.

THE PURPOSE OF DEVELOPMENT IS TO IMPROVE PEOPLE'S QUALITY OF LIFE, PROVIDING THEM, AMONG OTHER THINGS, WITH LONG LIFE AND A HEALTHY ENVIRONMENT (CLEAN AIR, PURE WATER AND WHOLESOME FOOD).

If radical changes are not made in these negative trends, the cities of the region will continue to grow randomly in ways dictated by poverty and will occupy areas with unsuitable living conditions.

There are 81 million people living in urban areas with air pollution. This is causing 2.3 million cases of respiratory illness among children and 65 million days of work lost each year among adults, in addition to a greater likelihood of genetic damage in the population.[9]

The worst situations are created by the dumping of chemical residues from chemical industries, refineries, iron and steel industries, and factories that manufacture plastics, fertilizer, paper, paint and insulation materials.

Seven out of every ten chemicals commonly found at city waste disposal sites can cause cancer and birth defects.[10]

The Governments of the region share a responsibility to address these problems. Consequently, a mandate of the ACTION PLAN is to find suitable and cost-effective strategies to fight air pollution in the metropolitan and industrial areas of the region through the **PROGRAMME FOR THE PREVENTION AND CONTROL OF AIR POLLUTION**.

POOR ENVIRONMENTAL PRACTICES IN CITIES, MINING, INDUSTRY, AND ENERGY PRODUCTION AND CONSUMPTION ARE LOWERING THE QUALITY OF LIFE IN THE REGION.

The **PROGRAMME ON ENVIRONMENTAL MANAGEMENT AND DEVELOPMENT CONTROL IN URBAN AREAS** seeks to control land use in order to mitigate the adverse environmental impacts of urban processes in the region.

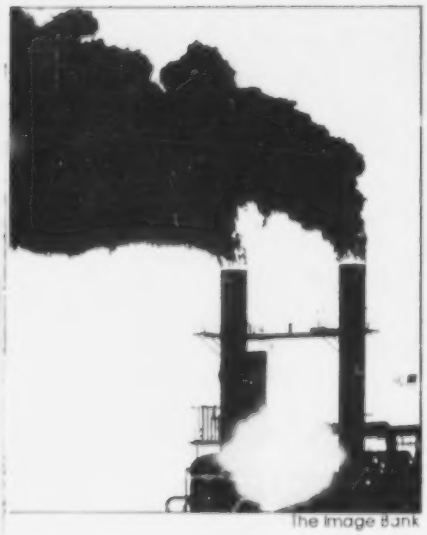
Mining and industry

Mining is an important activity in the region and is linked to serious environmental problems, particularly in the Andean countries. It is responsible for air pollution, since toxic gases are not treated; for water pollution, since effluents are left untreated; and for the accelerated exploitation of resources, since protection controls and standards are lacking. Furthermore, it causes the destruction of natural habitats nearby and leads to chaotic urbanization processes with subsequent serious environmental impact.

THE LACK OF GOVERNMENTAL ENVIRONMENTAL STANDARDS AND POLICIES FOR INDUSTRIAL AND MINING DEVELOPMENT IS THE BASIC CAUSE OF POLLUTION IN THE

The problem is similar in the case of industry: the most dynamic industries of the manufacturing sector typically have a high degree of toxicity in their gases, dusts and wastes.

Global estimates indicate that 41,000 tons of hazardous industrial wastes are emitted daily in Latin America (corrosive products and toxic and inflammable reagents that cause gene-altering disease, cancer and skin ailments).[11]



The Image Bank

The lack of governmental environmental standards and policies for industrial and mining development is the basic cause of pollution in the region.

The main opportunity available to Latin America and the Caribbean to exploit its mining resources suitably and develop industrial activities is the use of clean technology.

To combat these problems and identify options for the management of polluting urban and industrial wastes in the countries of the region, the ACTION PLAN includes a **PROGRAMME ON THE MANAGEMENT OF WASTEWATER AND SOLID WASTE** and a **PROGRAMME ON THE LIFE CYCLE MANAGEMENT OF TOXIC RESIDUES AND HAZARDOUS CHEMICALS** to allow policies to be formulated where the production and use of chemicals poses a potential public hazard.

Energy

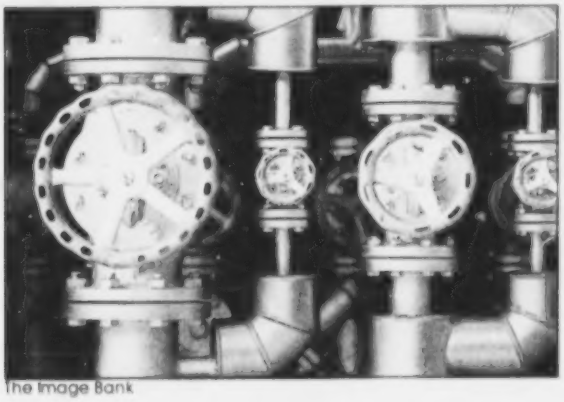
Energy is essential to development. However, its production and use can cause serious environmental pollution. Nearly 80% of the energy-generating sources in the region are nonrenewable and their availability varies. Yet there are now 32 million vehicles in the region and they only serve 6% of the population.[12, 13]

The ACTION PLAN seeks to establish a **PROGRAMME ON SAVING AND EFFICIENT USE OF EXISTING AND ALTERNATIVE ENERGY SOURCES**, which is intended: to minimize the consumption of fossil fuels (oil, gas and coal) through judicious administration of supply, reserves and demand; to reduce the adverse environmental effects of their production and consumption; and to identify local renewable energy sources that are more suitable from an environmental standpoint, such as waterfalls, solar energy, wind, sea waves or simple muscle power.

The Programme also seeks to develop and promote efficient energy consumption, since a great amount of energy can be saved by making some changes in industrial equipment and processes and in the automotive fleet by monitoring the maintenance status of machinery and fuel consumption and use, and by improving collective transport systems.

PANOS

ENERGY PRODUCTION IN ITS DIFFERENT FORMS IS A PROBLEM OF USING NATURAL RESOURCES.



The Image Bank

LATIN AMERICA POSSESSES 19.5% OF THE WORLD'S HYDROELECTRIC POTENTIAL, BUT ONLY 21% OF ITS CONSUMED ENERGY IS PRODUCED BY HYDROPOWER.[14]

J. A. Fernández/INCAFO

Hydroelectricity

The main environmental impacts of building dams are: occupation of valuable tropical ecosystems, extinction of flora and fauna, accelerated sedimentation from erosion in river basins, increased parasitic illnesses, modification of the water flow and local climate change. In addition to these impacts, new disease-producing species appear, fish and weeds reproduce excessively and changes in water quality occur.

Human settlements usually arise and grow explosively next to large dams, causing deforestation, which frequently exceeds that caused by the flooded area, and have serious impacts on local ethnic groups.

Nevertheless, hydroelectricity is one of the cleanest ways to produce energy and, consequently, hydroelectric projects are now being carried out, but with much greater precaution.

Development of clean technology

Clean technology incorporates the environmental dimension into the entire productive sector in order to reduce the emission of polluting wastes and minimize the use of energy, raw materials and natural resources.

Most of the transnational companies that operate in the region import innovative technology from their head offices. National companies, for their part, prefer to go to the international market instead of investing in the generation of local technology. Under these circumstances, it is not surprising to find that the science and technology system of Latin America and the Caribbean has very few links with the use of its natural and social resources.

This situation is related to the lack of access to information existing in the industrialized countries, a limited understanding of the main causes of environmental degradation, little knowledge of the consequences of losing natural resources, a lack of measurements indicating the economic losses resulting from environmental degradation and the absence of an appropriate legal framework.

The **TRANSFER AND ADAPTATION OF ENVIRONMENTAL PROTECTION TECHNOLOGIES** is another of the priority programmes of the ACTION PLAN. It seeks to promote production systems that will eliminate the generation of hazardous wastes or reduce them to the minimum, take full advantage of raw materials and energy, promote suitable hazardous waste management and treatment practices, establish emergency plans for technological accidents, with community participation, and disseminate information on the environmental management of agrochemicals. This programme provides for periodic meetings of experts to exchange experience and for an international computer information service with a data base on clean technology, training courses and a directory of experts.

Cherie Hart/PNUD

WWF/Mauri Rautkari

KAYAPO INDIANS WITH A MEDICINAL PLANT. "EXTRACTION RESERVES" WILL ALLOW SUSTAINED GATHERING IN THE AMAZON FOREST.

Cultural resources

In Latin America and the Caribbean, there are at least 480 ethnic groups that have remarkably adapted to their natural surroundings and have traditional agrarian cultures endowed with precise knowledge of natural resources, consumption patterns, suitable work and, above all, a concept of the environment that is not antagonistic. The deterioration of this invaluable cultural heritage is resulting in enormous ecological costs.

The ACTION PLAN seeks to tap the environmental knowledge and management capacity that some ethnic groups of the region have achieved, which could serve as a basis for the design of local environmental management projects.

The ACTION PLAN supports a **PROGRAMME ON POPULATION, RESOURCES, ENVIRONMENT AND DEVELOPMENT**, which seeks to design integrated plans for sustainable development that fully take into account the unique effects and interactions between the population, the use of resources, environment, development, the promotion of native technologies and the participation of native populations, since preserving the cultural identity of the native population is important to the conservation of the local environment, which they have used and managed for centuries.

J. A. Fernández/INCAFO

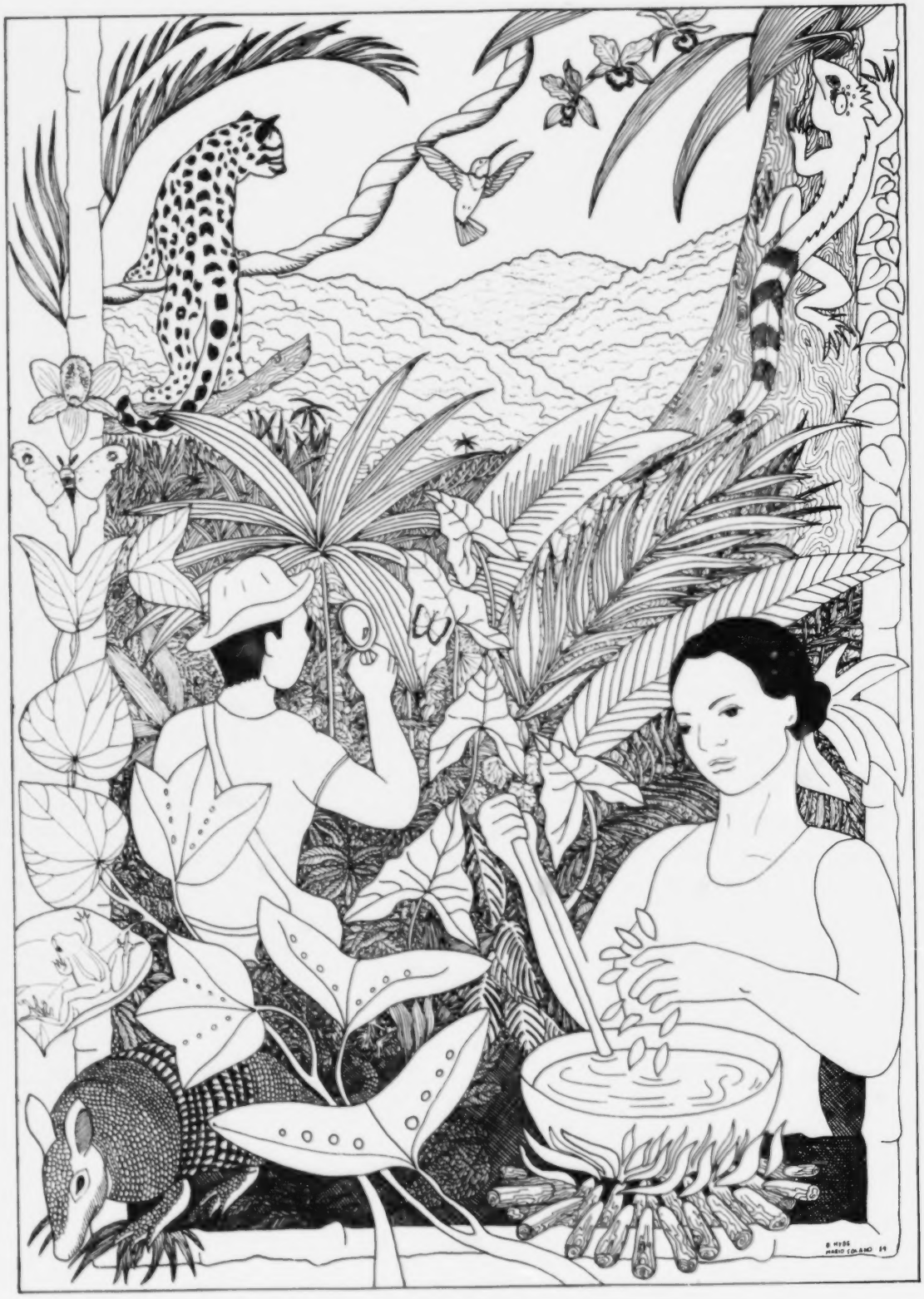
The sweetest plant in the world

Crystallization is used to extract the sweetest substance in the world from *Stevia rebaudiana*, a plant native to Paraguay. The Guarani Indians have cultivated it and used it since time immemorial.

Today it is grown in several industrialized countries and is highly profitable.

The international legal codes in force allow any variety obtained from the *Stevia* through genetic engineering to be patented, thereby remunerating scientific endeavours. However, the care and selection of the original wild varieties carried out by the Guarani Indians for centuries are granted no recognition whatsoever.

A. Young



3. Global environmental problems

Loss of biodiversity

Its variety of environments and climates makes Latin America and the Caribbean the region with the greatest number of species known in the world. Its biological diversity provides an invaluable economic and scientific potential that can give impetus to new development in the region's industry, agriculture and medicine, and should be considered a tool for negotiation with the industrialized countries. The region contains 40% of the plant and animal species of the world's tropical forests.[15]

OF THE 250,000 HIGHER PLANT SPECIES, 90,000 ARE FOUND IN TROPICAL LATIN AMERICA.[16]

All this latent potential in the region can only survive if special protected areas are established to conserve the biological diversity in biosphere reserves, refuges and sanctuaries for wild animals, forestry reserves and national parks.

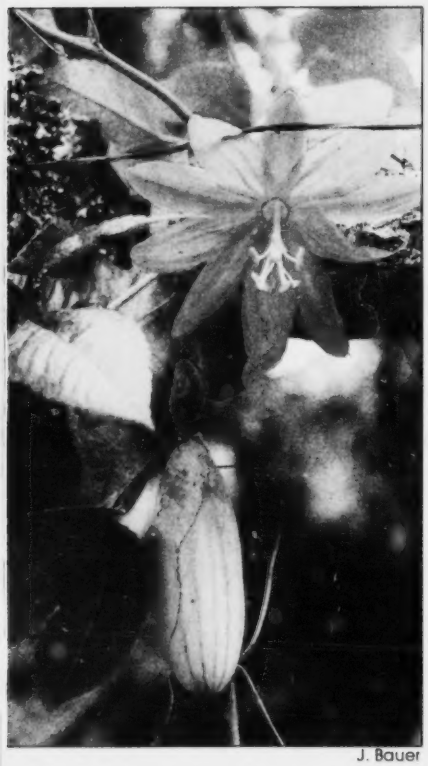
Recently, the Governments of the region have expanded protected areas. At the present time, they account for more than 4% of the total area. But that is not sufficient; the world recommendation is to reach 10% as a minimum to safeguard the biological diversity of the planet. [17, 18]

Many ecological zones that are rich in wild species and microorganisms and that promise to provide the region with abundant economic benefits are seriously threatened by migratory agriculture and livestock raising (temperate forests, plains, savannahs, arid zones, mangroves and coral reefs).

Moderate predictions suggest that extinction of the species in the tropical forests of Latin America may total 10% by the year 2000.[19] This figure indicates the loss of between 30,000 and 100,000 tropical species, many of them unknown to science. The loss of this biodiversity also represents a potential threat to the regulating capacity of environmental systems, such as stabilization of the climate, atmospheric humidity, the conservation of nurseries and the supply of species.

Conservation of biodiversity is urgent. In this regard, the ACTION PLAN supports a **REGIONAL PROJECT ON THE MANAGEMENT OF PROTECTED AREAS AND CONSERVATION OF BIODIVER-**

GLOBAL ENVIRONMENTAL PROBLEMS AFFECT ALL MANKIND AND REQUIRE SOLUTIONS COORDINATED AMONG THE COUNTRIES, IN ADDITION TO A FIRM REGIONAL JOINT POSITION IN DEALING WITH THE INDUSTRIALIZED COUNTRIES.



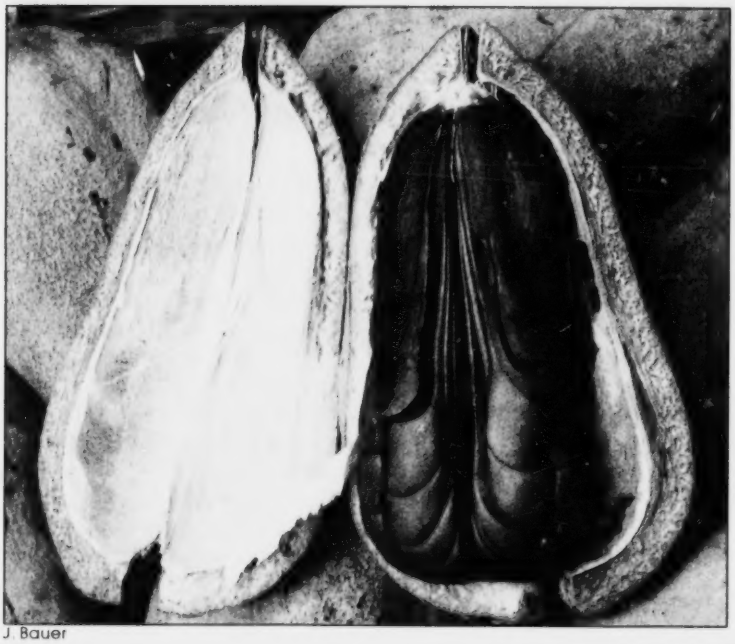
J. Bauer

SITY, in order to conduct scientific and taxonomic studies to identify the potential economic value of biodiversity; to improve the management of protected areas; to take suitable measures to protect genetic resources from tourism, livestock raising and forestry accidents; to maintain the traditional lifestyles of ethnic groups; to encourage local community participation; and to establish regional procedures for the exchange of experience.

The ACTION PLAN also envisages **PROJECTS FOR THE CONTROL AND RESTORATION OF ALTERED ECOSYSTEMS** to identify the most degraded areas in the region and formulate control and remedial measures for their recovery, particularly in the **MANAGEMENT AND CONTROL OF WETLANDS** (marine and fresh water swamps and marshes) and **HIGHLAND ECOSYSTEMS** (savannahs, high plateaus and tablelands).

J. Bauer

COMPENSATION SHOULD BE MADE FOR THE USE THAT ANY COUNTRY WISHES TO MAKE OF THE GENETIC HERITAGE OF ANOTHER; OTHERWISE IT BECOMES AN ENVIRONMENTAL DEBT.



J. Bauer

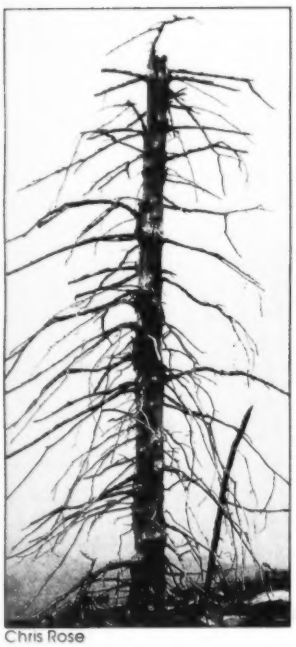
The genetic heritage

The developed countries have been taking genetic information as if it were a freely accessible asset. However, the technology it generates is sold at very high prices to the countries of origin. We have thus subsidized the industrialized countries by not charging them for the cost of reproducing or replacing the natural resources that they take from us, as well as the genetic information that they possess.

To prevent this imbalance, the countries of the region should promote regulations that will protect their genetic heritage and establish an international code of ethics that will create a commitment to provide scientific and technological support for developing basic knowledge in reproductive ecology and general and genetic biology of promising species.

Means should be sought to achieve balance in the distribution of the benefits between the countries that possess the biological wealth and the industrialized countries that have the technology.

Helen Moss



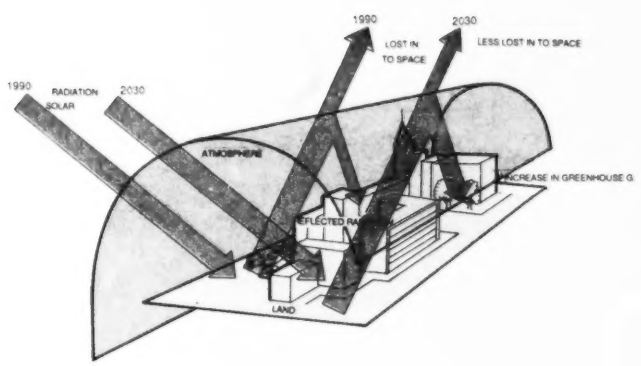
Chris Rose

Global warming

The atmosphere that surrounds the earth plays a critical role in keeping the temperature of the planet's surface stable. However, the continuous decomposition of fertilizers and organic residues, industrial emissions, the burning of fossil fuels and deforestation are changing the structure of the atmosphere and increasing the temperature on the surface of the earth. This phenomenon is called the GREENHOUSE EFFECT.

Many scientists believe that, in the long term, this effect could have serious consequences for agriculture: grazing lands and deserts would expand, forests would shrink, changes in the climate would increase, with more frequent floods, droughts and storms, and sea level would rise and flood low-lying lands.

Joint international measures must be taken to reduce to the minimum climate changes caused by the greenhouse effect, and greater responsibility should be assigned to those most responsible for it: the industrialized countries, which account for almost 80% of the world's fuel consumption.



Destruction of the ozone layer

Ozone is a gas which is formed naturally from oxygen and is found high in the atmosphere. It envelops the earth and protects it from mortal levels of ultraviolet solar radiation.

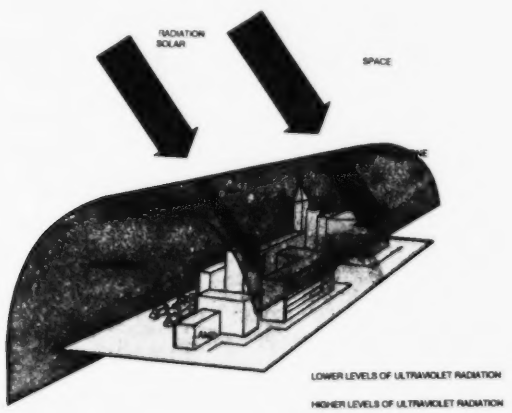
A change of only a few hundredths of a percent of ozone would be enough to allow dangerous levels of ultraviolet rays to reach the earth's surface.

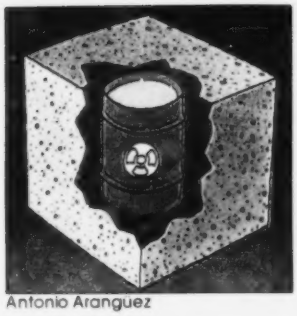
Ultraviolet rays cause sunburns, cataract, skin cancer and aging of the skin.

Greater levels of ultraviolet rays would also affect the human immunological system, climate conditions and the normal growth of plants, and would have a harmful effect on algae and microorganisms, which are the base of the sea food chain.

Diverse industrial substances affect the ozone layer; these include the gases used in aerosols and in refrigeration technology as well as some types of fire extinguishers (chlorofluorocarbons and halons).

The industrialized countries produce 95% of these gases and consume 84% of them.[20]





Antonio Aranguez

Management of hazardous wastes

The industrialized countries have established strict standards and controls to prevent industrial pollution. This has caused polluting technologies to be transferred to the countries of Latin America and the Caribbean.

Entire industries have been relocated in countries that have more lenient controls or none at all.

At the root of this problem lies the need for foreign investment and the urgency of providing people with jobs. A more recent problem is the export, often clandestine, of toxic industrial wastes from the industrialized countries.

The ACTION PLAN takes a clear regional position regarding these global environmental problems, many of which are chiefly caused by the industrialized countries. The programmes on **REGIONAL CLIMATE CHANGE, DEPLETION OF THE OZONE LAYER, CONSERVATION OF BIODIVERSITY AND MANAGEMENT OF HAZARDOUS WASTES** seek to strengthen the capacity of the Governments to identify the impact of global environmental concerns and to participate equitably in world efforts aimed at solving the diverse environmental problems. Without technological and economic cooperation from the countries of the North, the countries of the South have very little possibility of achieving environmentally sustainable development.

An example of joint international action to address a global problem is the Montreal Protocol, which in the 1990 amendment, agreed to stop all global production of gases harmful to the ozone layer by the year 2000. To that end, it has provided for the establishment of an international fund to allow alternative technologies to be transferred to the developing countries. This is the first time that the industrialized countries have agreed to provide additional financing exclusively for the developing countries.

Deirdre Heyde

4. Environmental management and institutional development

The countries of the region have begun to develop some institutional mechanisms to face environmental problems, but the crisis in recent years and cutbacks in the budgets of the public sector have made most of these mechanisms ineffective.

State environmental management should take into account environmental problems as a whole, the complexity of ecosystems and the links between economic growth and environmental deterioration.

Environmental management requires the formulation of policies and the establishment of legislation, an administrative system and a set of instruments for action that will be truly appropriate for addressing the existing problems.

The ACTION PLAN promotes the development of institutions that dedicate their efforts to environmental management, incorporate environmental considerations into development activities and encourage planners and those responsible for economic policies to take into account ecological protection as an essential component of economic, social and cultural development in the region. It also promotes the participation of non-governmental organizations in solving environmental problems.

Consequently, the ACTION PLAN seeks to strengthen environmental institutions and citizen participation, the development of environmental policies and legislation, and the linkage between development planning and environment through programmes that will strengthen suitable environmental management for development. The ACTION PLAN also seeks to incorporate the environmental dimension into development policies; to formulate appropriate environmental policies; to establish legal, regulatory and technical norms essential to action; to reinforce administrative systems needed for environmental management; and to develop instruments and support mechanisms for such management, such as environmental impact assessment, resource accounts and others.

Environmental management for development should be based, among other factors, on reliable information. To that end, the ACTION PLAN envisages a programme for the establishment of

THE GREATEST AND THE MOST ADVERSE CHANGES IN ECOSYSTEMS AND IN THE MANAGEMENT OF NATURAL RESOURCES, SUCH AS THE DISAPPEARANCE OF TROPICAL FORESTS AND CHAOTIC URBAN GROWTH, HAVE BEEN ENCOURAGED BY THE LACK OF ORGANIZATION AND PLANNING ON THE PART OF GOVERNMENT INSTITUTIONS.

a **GEOGRAPHIC INFORMATION SYSTEM FOR ENVIRONMENTAL MANAGEMENT AND DEVELOPMENT PLANNING**.

Environmental management for development is not a task that is the sole responsibility of the State and much less the responsibility of one single governmental entity. It should include the participation of civil society and public administration as a whole. The ACTION PLAN promotes the responsible participation of non-governmental organizations in solving environmental problems. All of this presupposes the existence of a well-informed and organized society that can participate. Citizen participation and, in more general terms, environmental change presuppose the existence of a civil society that has a high degree of environmental awareness. Consequently, the ACTION PLAN promotes an **ENVIRONMENTAL EDUCATION PROGRAMME** aimed at enhancing ecological awareness in the region by incorporating environmental factors into formal and non-formal educa-

tion programmes (including mass media). This implies changing the education system to provide orientation in accordance with the heritage of natural resources and the demands of the productive apparatus in each country.

To support the system of programmes mentioned above, the ACTION PLAN proposes to strengthen and expand the **REGIONAL ENVIRONMENTAL TRAINING NETWORK**, which has been in operation since 1981 and promotes training and education at a level of excellence in critical environmental areas.

Mark Edwards

Territorial management

J. Bauer

The future of international cooperation and the ACTION PLAN

Interdependence is one of the current phenomena that most strongly limits the development of nations. Balances in political power, cultural events broadcast instantly by telecommunications, international trade, technological progress, social phenomena, such as the poverty spread over the entire world, and ecological impacts that go beyond borders are some of the links in this unavoidable interdependence.

Antonio Aranguez

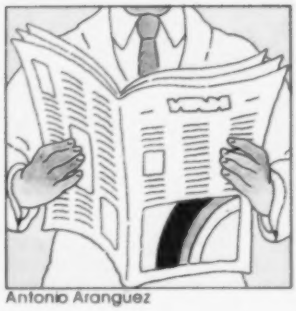
We know that the natural resource base and the technology for its exploitation are not geographically distributed in an equitable manner, which means that their use must be continuously negotiated.

We should remember that most of the natural resources used are found in the Third World and that these have been subjected to a continuous process of degradation, owing, to a great extent, to the development policies and exploitation systems imposed by the industrialized countries.

The ACTION PLAN FOR THE ENVIRONMENT IN LATIN AMERICA AND THE CARIBBEAN demonstrates, in more than one way, that it is beneficial to environmental management. The ACTION PLAN, conceived to strengthen environmental protection programmes through greater international cooperation, also offers the advantage of helping to define a common regional position regarding environmental problems and facilitating the capacity of the countries to negotiate and effectively present their case in international forums.

OUR REGION SHOULD HAVE A CLEAR VOICE AND A STRATEGY FOR ENVIRONMENT AND DEVELOPMENT ISSUES. ONCE THAT POSITION IS ESTABLISHED, IT SHOULD IMMEDIATELY INITIATE NEGOTIATIONS WITH THE INDUSTRIALIZED COUNTRIES LEADING TO THE SIGNING OF AN INTERNATIONAL PACT THAT WILL COMMIT US ALL, BOTH RICH COUNTRIES AND POOR COUNTRIES, TO WORK TOGETHER TOWARDS SUSTAINABLE DEVELOPMENT.

The ACTION PLAN with its four programming areas, **NATURAL RESOURCES MANAGEMENT, POLLUTION PREVENTION AND CONTROL, SOLUTIONS TO GLOBAL ENVIRONMENTAL**



Antonio Aranguez

WE CALL FOR SOLIDARITY IN FACING THE FUTURE OF THE REGION, SINCE THE HUMAN COST, EXPRESSED IN TERMS OF POVERTY, SUFFERING, PREVENTABLE ILLNESSES AND THE DEATH RATE, IS THE TRUE PRICE OF ENVIRONMENTAL DEGRADATION.

PROBLEMS AND INSTITUTIONAL DEVELOPMENT FOR ENVIRONMENTAL MANAGEMENT is an effort in that direction and provides a regional perspective of problems; it provides for the exploration of new approaches, the promotion of sustainable means of growth and channels for political initiative and citizen participation. In brief, it represents a development strategy that is not self-destructive and is aimed at environmental protection that should form an integral part of the ideas and work for economic, social and cultural development in the countries of the region.

The ACTION PLAN is an expression of the political will and commitment of the Governments of the region to planning and implementing common solutions to the economic, social and environmental problems of the region. With their ACTION PLAN, Latin America and the Caribbean seek unified and concurrent action on the part of international agencies to prevent the scattering and overlapping of similar activities; they seek a response and commitment from the industrialized countries to assist the region in solving its environmental problems.

WE SHOULD SUPPORT THE ACTION PLAN FOR THE ENVIRONMENT, since it will enable Latin America and the Caribbean to build a common future for the region with the rest of the world. We should remember that one of the most rapid ways to achieve lasting and effective solutions is through cooperation between countries.

"WE URGE THE INTERNATIONAL COMMUNITY, PARTICULARLY THE DEVELOPED COUNTRIES AND THE MULTILATERAL AND BILATERAL FINANCIAL AND TECHNICAL ASSISTANCE INSTITUTIONS, TO RECOGNIZE THAT THE ACTION PLAN REPRESENTS A FRAMEWORK FOR ENVIRONMENTAL MANAGEMENT IN LATIN AMERICA AND THE CARIBBEAN AND THAT THE PROGRAMMES, PROJECTS AND ACTIVITIES DEVELOPED FROM IT REFLECT THE WILL OF THE COUNTRIES OF THE REGION."
(Call to Action of the ACTION PLAN for the Environment in Latin America and the Caribbean, Port-of-Spain, 1990).

List of countries of Latin America and the Caribean wich adopted the ACTION PLAN

Anguilla, Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Turks and Caicos, Uruguay and Venezuela.

Seventh Ministerial Meeting on the Environment. Port-of-Spain (Trinidad and Tobago).

Agencies of the United Nations system that are interested in participating in some projects of the ACTION PLAN

MANAGEMENT OF NATIONAL AND MULTINATIONAL WATERSHEDS
Organization of American States (OAS), United Nations Food and Agriculture Organization (FAO), Economic Commission for Latin America and the Caribbean (ECLAC).

PROTECTION OF THE MARINE AND COASTAL AREAS OF THE SUBREGION OF THE SOUTH-EAST PACIFIC AND THE WIDER CARIBBEAN
Permanent Commission for the South Pacific (CPPS); Ocean and Coastal Areas Programme Activities Centre (OCA/PAC); International Union for the Conservation of Nature and Natural Resources (IUCN), United Nations Food and Agriculture Organization (FAO), United Nations Educational, Scientific and Cultural Organization (UNESCO), Intergovernmental Oceanographic Commission (IOC), Economic Commission for Latin America and the Caribbean (ECLAC), Organization of American States (OAS), International Maritime Organization (IMO).

TRANSFER AND ADAPTATION OF ENVIRONMENTAL PROTECTION TECHNOLOGIES
United Nations Industrial Development Organization (UNIDO), United Nations Food and Agriculture Organization (FAO), United Nations Environment Programme (UNEP).

MANAGEMENT OF PROTECTED AREAS AND CONSERVATION OF BIODIVERSITY
United Nations Food and Agriculture Organization (FAO), International Union for the Conservation of Nature and Natural Resources (IUCN), Organization of American States (OAS), Secretariat of the Andres Bello Agreement (SECAB), United Nations Educational, Scientific and Cultural Organization (UNESCO), Caribbean Conservation Association (CCA).

ENVIRONMENTAL MANAGEMENT FOR DEVELOPMENT
Economic Commission for Latin America and the Caribbean (ECLAC), Organization of American States (OAS), Secretariat of the Andres Bello Agreement (SECAB), Permanent Commission for the South Pacific (CPPS), United Nations Educational, Scientific and Cultural Organization (UNESCO).

REGIONAL ENVIRONMENTAL TRAINING NETWORK
Organization of American States (OAS), Pan American Health Organization (PAHO), Economic Commission for Latin America and the Caribbean (ECLAC), United Nations Food and Agriculture Organization (FAO), United Nations Educational, Scientific and Cultural Organization (UNESCO), Latin American Energy Organization (OLADE), Inter-American Institute for Cooperation on Agriculture (IICA), Board of the Cartagena Agreement (JUNAC), Permanent Commission for the South Pacific (CPPS), Tropical Agriculture Research and Training Center (CATIE), International Labour Organisation (ILO), United Nations Industrial Development Organization (UNIDO), International Union for the Conservation of Nature and Natural Resources (IUCN), Secretariat of the Andres Bello Agreement (SECAB).

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